

ETHYL CORPORATION**INTER-OFFICE
CORRESPONDENCE**

TO Mr. R. P. Love **ADDRESS** Houston Plant

FROM J. T. Rucker **ADDRESS** Houston Plant

SUBJECT Asbestos Monitoring **DATE** September 22, 1978
Central Shops

On August 20, we received complaints from employees and union officials in the Central Shops because of particulate fallout from the ceiling. After examination of the material, our consultant reported approximately 47% chrysotile asbestos. Out of twelve samples obtained (eight personnel and four environmental), results indicate time weighted average concentrations ranging from 0.01 to 0.24 fibers of asbestos/cc. The existing OSHA standard is 2 fibers/cc, calculated as an 8-hour time-weighted average. Based on these results and observations in the shop, we do not have an airborne asbestos problem.

Observations and Recommendations

1. Most particulate fallout associated with this complaint can be attributed to an insect ("mosquito hawk"). The movement of the insect's wings near the ceiling caused the material to flake off.
2. Although much of the material has lost its adhesiveness, it is not likely that normal wind currents would cause it to fall off. This is confirmed by air sampling results.
3. However, there is an accumulation of fallout on the metal beams and light fixtures. It appears that some of this is material from the ceiling.
4. I concur with J. A. Jacoby that employee clothes change is not necessary (see attached report).

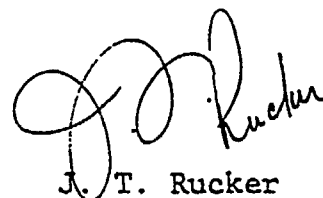
ETH 002347

Sept. 22, 1978

5. My opinion is that a sealant would not work because of the poor adherence of the insulation to the concrete ceiling.

To further confirm there are no significant levels of airborne asbestos, additional monitoring will be conducted periodically.

If there are any questions regarding this report, please contact me.



J. T. Rucker

JTR:W

Enc. 2

Distribution: W. F. Armstrong/A. O. Wikman
R. G. Copes
J. R. Davis
R. Herzog
C. B. Hunt
D. E. Johnson
C. L. Kingrea
C. J. Lowe
R. L. Mack
P. J. Sanders
G. L. Ter Haar
File - Oper. Houston

ETHYL CORPORATION

INTER-OFFICE

To Travis Rucker ADDRESS Houston Plant
FROM J. A. Jacoby ADDRESS BRT
SUBJECT Asbestos at Houston's Central Shops DATE September 14, 1978

Results of monitoring exposures to asbestos on August 30-August 31 indicate time weighted average exposures of 0.03 to 0.24 fibers of asbestos/cc. To exceed the ceiling concentration of 10 fibers/cc, the total exposure would have had to occur in a 10 minute time span with no exposure for the remainder of the shift. Observations by Travis Rucker indicate that exposures have peaks but occur throughout the day, therefore, concentrations in excess of the ceiling concentration are not anticipated. I recommend that samples be taken to support our contention that the ceiling concentration is not exceeded. The OSH Act requires clothes change (special clothing) under 1910.1001 (d)(3) which states, "The employer shall provide, and require the use of, special clothing, such as coveralls or similar whole body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos fiber, which exceed the ceiling level prescribed in paragraph (b) of this section".

I do not feel that we have a legal requirement under OSHA to supply the employees with a change of clothing unless the samples obtained to determine peak concentrations exceed the ceiling limit of 10 fibers/cc.

Any asbestos which falls from the ceiling should be immediately removed, preferably by properly filtered vacuum.

Clothes change does not prevent asbestos from falling. To eliminate the problem, a method of sealing the asbestos as with a polymer, or removal of the asbestos, should be considered from an employee relations viewpoint, but is not a requirement under OSHA.



J. A. Jacoby

JAJ:bto

cc: D. E. Johnson
R. L. Smith
G. L. Ter Haar
File: Operations - Houston

ETH 002330



walter c. m^ccrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

7 September 1978

Mr. F. Rucker
Ethyl Corporation
P. O. Box 472
Pasadena, Texas 77501

Dear Mr. Rucker:

We have completed our examination by light microscopy of the two samples submitted for asbestos analysis. The two samples labeled No. 1 and No. 2 were submitted under purchase order no. 46429-3.

Our examination revealed that Sample 1 contains approximately 45% chrysotile asbestos and Sample 2 approximately 10% chrysotile asbestos.

Thank you for consulting McCrone Associates. If there are any questions concerning these results, please contact me.

Sincerely,

Mark Palenik
Research Microscopist

MP:fe
ref: 7316

ETH 002331

YOUR NAME MUST BE ON YOUR SAMPLE

CHEMICAL ANALYSIS REQUEST			DATE RECEIVED	ANAL. LAB NO.
			APPROVED BY	
PROJECT NO.	DATE WANTED ASAP		REQUESTED BY JAMES TRAVIS RUCKER	
DESCRIBE BRIEFLY MATERIAL TO BE ANALYZED Millipore filters for Asbestos Analysis			SEND COPY TO JAMES TRAVIS RUCKER	
			SEND COPY TO	
STATE ANY SPECIAL HAZARDS			SAMPLE DISPOSITION ☐ HOLD ☐ RETURN ☐ PICK UP YOUR SAMPLE	
SAMPLE IDENTIFICATION	ANALYZE FOR	RANGE PRESENT	QUANTITY FOUND	UNITS
11M-1 - ASBESTOS - H	12.	93,700/7000	12.9 fibers/l	
12M-2 - ASBESTOS - H	Lockman	20,520	28.5 fibers/l	
11M-3 - ASBESTOS - H	Lockman	71,250	98.9 fibers/l	
12M-4 - ASBESTOS - H	2085	155,455	740 - 340	
			8hr.	720 l
			435	652
$215.9 \text{ fibers/l} \times 1.5 \text{ l/min} \times 480 \text{ min} = 157,032 \text{ fibers}$ 0.2 liter/cm^3				
		93,700/720 l	= 12.9 fibers/l	
$93,700 / 720,000 \text{ cc} = 0.13 \text{ fibers/cc}$ $20,520 / 720,000 \text{ cc} = 0.03 \text{ fibers/cc}$ $71,250 / 720,000 \text{ cc} = 0.10 \text{ fibers/cc}$ $155,455 / 720,000 \text{ cc} = 0.22 \text{ fibers/cc}$				
$93,700 / 652,500 \text{ cc} = 0.14 \text{ fibers/cc} / 2 = 0.13 \text{ fibers/cc}$ $20,520 / 652,500 \text{ cc} = 0.03 \text{ fibers/cc} / 2 = 0.03 \text{ fibers/cc}$ $71,250 / 652,500 \text{ cc} = 0.11 \text{ fibers/cc} / 2 = 0.10 \text{ fibers/cc}$ $155,455 / 652,500 \text{ cc} = 0.24 \text{ fibers/cc} / 2 = 0.22 \text{ fibers/cc}$				
NOTES OR REFERENCES			DATE REPORTED	
ANALYST			TOTAL	
MAN DAYS				

SUBJECT

FILE

DATE

BY

Asbestos Monitoring

8/31 ~~1985~~

CENTRAL Shops AREA

PERSONNEL MONITORING

11.m - 3 - Asbestos - H ²⁰⁸⁵ Pump Cal.

12.m - 4 - Asbestos - H ^{lockline} 3.5 SETTING

1.6

1.5

1.5

1.5

CEILING FAN NOT WORKING

AVERAGE (1.5)

START

7³⁰ - 11³⁰
12¹⁵ - 3³⁰

fallout on ~~lockline~~ 2085 TOTAL TIME 435 MIN

NO REASON FOR fallout

ROUTING WORK

cellulose membrane filter

SUBJECT

FILE

DATE 8-30

BY JT

Asbestos Monitoring

Central Shops

Personnel Samples

Pump Cal.

3.5 SETTING

= 1.5 L/MIN

1.5 L/MIN

11 M-1 - Asbestos - H TC.

E

12 M-2 - Asbestos - H Locklear

Each employee had a
45 min. lunch

7³⁰ - 11³⁰
12¹⁵ - 3³⁰

TOTAL TIME 435 min.

TC worked away from the
AREA most of the day

Locklear worked directly under
fallout area most of the day
No apparent fallout

Routine work

ceiling fan not working

Note → vinyl metrodcel

no project number

YOUR NAME MUST BE ON YOUR SAMPLE

CHEMICAL ANALYSIS REQUEST			DATE RECEIVED	ANAL. LAB NO.
PROJECT NO. ? ?			Aug 24, 1978	# 2-4746
DATE WANTED ASAP			APPROVED BY R. Smith	# 2-479
DESCRIBE BRIEFLY MATERIAL TO BE ANALYZED			REQUESTED BY	JAMES TRAVIS Rucker
ANALYZE Millipore filters for Asbestos fibers			SEND COPY TO	JAMES TRAVIS Rucker
STATE ANY SPECIAL HAZARDS			SEND COPY TO	
			SAMPLE DISPOSITION	
			☐ HOLD ☐ RETURN	
			☐ PICK UP YOUR SAMPLE	
SAMPLE IDENTIFICATION	ANALYZE FOR	RANGE PRESENT	TOTAL FIBERS	
			QUANTITY FOUND	UNITS
12M-1 - ASBESTOS - H	* 10,260/720,000 cc = 0.01 fibers/cc		10,260	
11M-2 - ASBESTOS - H	* 20,520/720,000 cc = 0.03 fibers/cc		20,520	
12M-3 - ASBESTOS - H	X 6,840/720,000 cc = 0.01 fibers/cc		6,840	
11M-4 - ASBESTOS - H	X 17,100/720,000 cc = 0.02 fibers/cc		17,100	
Blank 8-18			< 3420	
Blank 8-22			< 3420	
* vinyl methacel - area sample				
1.5 L/min x 480 min				
x cellulose membrane - personnel sample				
1.5 L/min x 450 min.				
NOTED OR REFERENCES			DATE REPORTED	
ANALYST Kamron			Sept 5, 1978	
MAN DAYS			TOTAL	

SUBJECT

FILE

DATE 8-18

BY JJ

Asbestos Monitoring.

Central Shops Area
Environmental Samples

Pump Cal
setting 3.5 - 1.6 L/min
1.52
1.5
1.5
1.5

12M-1 - ASBESTOS - H

directly behind fallout area
top of lockers

routine work

start: 7³⁰ AM
stop: 3³⁰ PM

11 M-2 - ASBESTOS - H

south of fallout area
top of lockers

480 revs.

samples were collected on vinyl methacel
filters

look like routine day
no apparent fallout

small amounts of asbestos on
equipment.

ceiling fan not working

personal fans at most station

employees had two breaks & 1 lunch

SUBJECT

FILE

DATE 8-19

BY JG.

Asbestos Monitoring

Central Shops Area
Environmental Samples

12M-3-Asbestos-H TC

Pump Cal.
setting 3.5 = 1.5 l/min
1.5 l
1.5
1.5

directly behind fallout AREA
Top of lockers

EMPLOY. WAS IN THIS AREA MOST OF THE TIME

START: 7³⁰ AM

STOP: 3³⁰ PM

Lunch 30 MIN

11M-4-Asbestos-H LOCKER

480 MIN.
30 "

SOUTH of fallout AREA
Top of lockers

EMPLOY. WAS IN THIS AREA MOST OF THE TIME

450 MIN (Total)

SAMPLES WERE COLLECTED ON CELLULOSE
MEMBRANE FILTERS

NO fallout NOTICE

CEILING FAN NOT WORKING

EMPLOYEES STOOD IN FRONT OF PERSONAL
FANS MOST OF THE DAY.

ROUTINE WORK

CHEMICAL ANALYSIS REQUEST					
PROJECT NO.		DATE WANTED <i>ASAP</i>		REQUESTED BY <i>JAMES TRAVIS RUCKENSTEIN</i>	
DESCRIBE BRIEFLY MATERIAL TO BE ANALYZED <i>Asbestos Samples</i>				SEND COPY TO <i>JAMES TRAVIS RUCKENSTEIN</i>	
				SEND COPY TO	
STATE ANY SPECIAL HAZARDS <i>CENTRAL Shops Area Samples</i>				SAMPLE DISPOSITION	
				☐ HOLD ☐ RETURN	
				☐ PICK UP YOUR SAMPLE	
SAMPLE IDENTIFICATION	ANALYZE FOR	RANGE PRESENT	QUANTITY FOUND	UNITS	
<i>12 M - 1 - ASBESTOS - H²⁰⁹⁷</i>					
<i>11 M - 2 - ASBESTOS - H?</i>					
<i>12 M - 3 - ASBESTOS - H</i>	<i>NORTH SIDE</i>				
<i>11 M - 4 - ASBESTOS - H</i>	<i>MIDDLE of Shop</i>				
<i>1.5 l/min x 480 min = 720 L or 720000 cc</i>					
NOTEBOOK REFERENCES					
ANALYST			TOTAL		
MAN DAYS					

TX-193-8

YOUR NAME MUST BE ON YOUR SAMPLE

CHEMICAL ANALYSIS REQUEST				DATE RECEIVED Sept. 13, 1978	ANAL. LAB NO. 2-543-
				APPROVED BY R. Smith	2-548
PROJECT NO.	DATE WANTED ASAP			REQUESTED BY James Travis Rocker	
DESCRIBE BRIEFLY MATERIAL TO BE ANALYZED				SEND COPY TO JAMES TRAVIS Rocker	
Asbestos Samples				SEND COPY TO	
STATE ANY SPECIAL HAZARDS Central Phone Area Samples FIBERS				SAMPLE DISPOSITION ☐ HOLD ☐ RETURN ☒ TOTAL FIBERS ☒ PICK UP YOUR SAMPLE	
SAMPLE IDENTIFICATION	ANALYZE FOR	RANGE PRESENT	QUANTITY FOUND	UNITS	
12 M - 1 - ASBESTOS - H		10.260	0.014	g	
11 M - 2 - ASBESTOS - H		3.420	0.005	g	
12 M - 3 - ASBESTOS - H		76.575	0.106	g	
11 M - 4 - ASBESTOS - H		41.040	0.057	g	
Above are corrected for blanks					
Blank - 4-12		3.420			
Blank - 4-13		6.840			
Total / min. x 450 min = 1202.00 720000					
NOTERBOOK REFERENCES				DATE REPORTED Sept 20, 1978	
ANALYST K. Smith				TOTAL	
MAN DAYS					

SUBJECT

FILE

DATE 9-13

BY

Asbestos Monitoring

CENTRAL Shops AREA
AREA Samples

12 M - 3 - Asbestos - H
(NORTH DOOR)

11 M - 4 - Asbestos - H
(MIDDLE OF SHOP)

7³⁰ - 3³⁰

SETTING 3.5 = 1.5 L/MIN

1.52

1.54

1.5

TOTAL TIME 480

AVERAGE 1.5

A GOOD WIND DRAFT AROUND DOOR

NO APPARENT FALLOUT

CEILING FAN NOT WORKING

ROUTINE WORK

SAMPLES SHOULD BE TAKEN ON

CELLULOSE MEMBRANE FILTERS

SUBJECT

FILE

DATE

9-12

BY

ST

Asbestos Monitoring

CENTRAL Shops AREA

AREA Samples & Personnel

Pump Cal.

3.5 SETTING 1.5 LITERS / MIN

12M - 1 - Asbestos - H²⁰⁹¹

7³⁰ - 11³⁰

11M - 2 - Asbestos - H²⁰⁸¹

12²⁰ - 3³⁰

450 min.

ROUTINE WORK

CEILING FAN NOT WORKING

SOME ~~SMALL~~ SMALL AMOUNTS OF
CEILING MATERIAL AROUND FLOOR

PERSONNEL FANS GOING

NO PROBLEMS

SUBJECT

FILE

DATE

BY

SOUND LEVEL MEASUREMENTS

fur & Alloy 1ST & 2ND & CASTERS

A RUBBER FAN

B1

B2

MET POT
PANEL BOARD

WARREN GAFFORD

FILM & holder

ATOMIC ENERGY Lab 7909719

ATTN: STEVE

SUBJECT

FILE

DATE

BY

SHEET of Asbestos

$\frac{1}{16}$ " X 36" wide

USED AS AN INSULATOR BETWEEN
CONTAINER HEATER AND CATCH TRAY

MATERIAL IS CUT IN RECTANGULAR
SHAPE, BALANCE IS WRAPPED IN
A PLASTIC BAG AND LABEL

RESPIRATOR REQUIRED

ECONOTHERN INSULATION

6741569

P.O. (98299-3) 27075

RESPIRATOR R56 CART
A.O. SERIES BR-2204

R55 not acceptable

SUBJECT

FILE

DATE

BY

$\frac{1}{16}$ " x 36" wide

1. COMPANY NEGLIGENCE - LEAVING
ASBESTOS SHEETS EXPOSED
2. EXPOSING MEN TO THIS MATERIAL
3. SAFETY RULES NOT PUT INTO FORCE

ANY ASBESTOS ON CLOTHES, WOULD
LIKE TO CHANGE CLOTTES.

PO. Box 2664
Coastal Supply, Houston
6762600

2 x $\frac{1}{16}$ ASBESTOS LISTING TAPE

FREQUENCY - ONCE OR TWICE / MONTH ?
PEOPLE - ONE PERSON WITH KNIFE

FREQUENCY - ONCE / WEEK
PEOPLE - TWO MEN - APPROX
1 HR.

PROTECTIVE EQUIPMENT (HAVE BEEN TOLD)
CLOTHING (SPECIAL) ANY CLOTHS
MONITORING NONE
SIGNS - NONE
HOUSEKEEPING ?
WASTE DISPOSAL - TRASH CAN

Kemron

Environmental Services Division

ASBESTOS FIBER

SEP 22 1978

FOR

ETHYL CORPORATION
8000 GSRI ROAD
BATON ROUGE, LA 70808

SEPTEMBER 14, 1978

BY

KEMRON ENVIRONMENTAL SERVICES
16550 HIGHLAND ROAD
BATON ROUGE, LOUISIANA

ETH 002345

ETHYL CORPORATION

Four filters for asbestos fiber count and sizing were received on September 12, 1978. Asbestos fibers longer than 5µm in length were observed by transmitted light by means of a phase contrast microscope at a magnification of 450X. The procedure described in NIOSH Criteria Document for Asbestos was followed.

Sample Identification	No. of Fields Observed	No. of Fibers counted	Total No. of Asbestos fibers per filter
*11M-1-Asb-H (8/30/78)	73	20	93,700
*12M-2-Asb-H (8/30/78)	100	6	20,520
11M-3-Asb-H (8/31/78)	96	20	71,250
12M-4-Asb-H 98/31/78)	44	20	155,455

*PVC filters were used for these samples, therefore, a modified procedure was used to count the asbestos fibers. In the future, please use mixed cellulose-ester filters as recommended in the NIOSH procedure.

Sham L. Sachdev
 Sham L. Sachdev, Ph.D
 Director, Industrial
 Hygiene Department